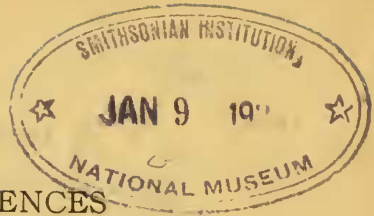


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THE TEMPLETON CROCKER EXPEDITION OF THE
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THE DIURNAL LEPIDOPTERA OF THE EXPEDITION

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No special effort was made to secure Galapagos Lepidoptera on the Templeton Crocker Expedition of 1932 as that order of insects had been systematically collected by F. X. Williams while on the Academy Expedition of 1905-06. However a few interesting things were taken, including three still undetermined. The present paper records the Diurnal Lepidoptera of the expedition, numbering 42 species. All were taken under Mr. Crocker's direction by his secretary, Mr. Maurice Willows, Jr.

PAPILIONIDÆ

1. *Papilio philenor* Linnæus

One male of the typical form of this species was taken at Acapulco, Mexico, April 5, and one female was found on Clarion Island.

2. *Papilio photinus* Doubleday

Another Central America butterfly of which one individual was taken on Coseguina Slope, Nicaragua, July 6.

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3. *Papilio thoas autocles* Rothschild and Jordan

Three specimens of the Central American form of *thoas* were taken on Coseguina Slope, Nicaragua, July 6-7.

4. *Papilio epidaus* Doubleday

One of the most beautiful of the white papilios. Two fresh specimens were taken on the Costa Rica coast July 2.

PIERIDÆ

5. *Ascia monuste* Linnæus

This large white butterfly was taken at Mazatlan, Mexico, July 28, at Puerto Vallarta, Jalisco, Mexico, July 21, and on Isabel Island, Mexico, July 27. The latter a dark female.

6. *Itaballia calydonia* Boisduval

Costa Rica, July 3. This is a Central American form of the South American *demophila* Linn.

7. *Catopsilia eubule* Linnæus

Indefatigable Island, May 3-8; Chatham Island, April 7; Iguana Cove, Albemarle Island, May 21; Villamil, Albemarle Island, April 28. Apparently common on the Galapagos Islands as it is in North and South America. Here we call it the cloudless sulphur.

8. *Catopsilia stetira* Cramer

Puerto Vallarta, Jalisco, Mexico, July 27. The paler outer half of the wings will serve to distinguish this from the preceding.

9. *Catopsilia argante* Fabricius

Two examples of this large bright orange butterfly were taken with the preceding.

10. *Gonepteryx mæricula* Fabricius

Banderas Bay, Mexico, July 22. A large orange yellow butterfly with a conspicuous black dot on the wings.

11. *Gonepteryx chlorinde* Godart

Two individuals of this large white butterfly with a square lemon-yellow spot on the forewing, were taken in Costa Rica, July 2, and one on Isabel Island, Mexico, July 27.

12. *Terias westwoodi* Boisduval

Coseguina Slope, Nicaragua, July 7, four specimens.

13. *Terias lydia* Felder

Coseguina Slope, Nicaragua, July 6.

DANAIDÆ

14. *Danais berenice* Cramer

Coseguina Slope, Nicaragua, July 7. A common species in tropical America.

15. *Mechanitis lycidice* Bates

Coseguina Slope, Mexico, July 7-8.

SATYRIDÆ

16. *Eupytcha hermes* Fabricius

Coseguina Slope, Nicaragua, July 6.

HELICONIDÆ

17. *Heliconius petiverena* Doubleday

Acapulco, Mexico, April 5. The broad orange band on the forewing and narrow lemon-yellow one on hind wing will distinguish this insect.

NYMPHALIDÆ

18. *Colænis delila* Fabricius

Coseguina Slope, Nicaragua, July 7. A bright orange narrow-winged butterfly.

19. *Agraulis vanillæ galapagensis* Holland

Albamarle Island, April 28. This is a small dark form of our common *vanillæ* that well deserves subspecific distinction. It seems to be common on the islands.

20. *Euptoita claudia* Cramer

Costa Rica, July 1; Puerto Vallarta, Jalisco, Mexico, July 21; Isabel Island, Mexico, July 27. Common in the southern United States.

21. *Chlosyne*, sp.

Puerto Vallarta, Jalisco, Mexico, July 21, two examples. This insect in wing form and style of marking seems nearest to *tellias* as figured in Seitz, but it is a narrower winged form and both specimens lack the white spot behind the cell of the forewing, while one wants the red on the hind wing above.

22. *Melitæa theona* Menetres

Acapulco, Mexico, April 3, one damaged specimen.

23. *Microtia elva* Bates

Costa Rica, July 2, one female.

24. *Vanessa caryæ* Hubner

San Martin Island, Lower California, August 19. This is our common western painted lady.

25. *Anartia jatrophæ* Linnæus?

One small pale specimen, probably not distinct, was taken at Acapulco, Mexico, April 28.

26. *Anartia venusta* Fruhstorfer

Puerto Vallarta, Jalisco, Mexico, July 27. In this specimen the red band on the hind wings consists of about seven intervenular spots.

27. *Eunica modesta* Bates

Isabel Island, Mexico, July 27. A small black butterfly with about five white subapical spots on forewings.

28. *Victorina steneles biplagiata* Fruhstorfer

Puerto Vallarta, Jalisco, Mexico, July 21.

29. *Megalura chiron* Fabricius

Puerto Vallarta, Jalisco, Mexico, July 27, three examples; Punta Arenas, Costa Rica (H. S. Swarth).

30. *Megalura peleus* Sulzer

Puerto Vallarta, Jalisco, Mexico, July 21, one male.

31. *Chlorippe kallima* Staudinger

Coseguina Slope, Nicaragua, July 7, one example.

32. *Zaretas ellops* Menetres

Coseguina Slope, Nicaragua, July 7, one large female much resembling Seitz' figure of *strigosa* female.

LIBYTHIDÆ

33. *Libythea carinenta* Cramer

Banderas Bay, Mexico. July 22, one specimen.

ERYCINIDÆ

34. *Nymphidium mycone* Hewiston

Acapulco, Mexico, April 5, one female.

LYCÆNIDÆ

35. *Leptotes parrhasioides* Wallengren

Indefatigable Island, June 8, five examples. These are smaller and darker than our *marina* which they much resemble. Williams gives an interesting account of this insect in Proc. Calif. Acad. Sci., (Ser. 4) I, p. 300, 1911.

36. *Thecla melinus clarionensis* Heid, n. subsp.

At my request Mr. Graham H. Heid has studied this insect. Two specimens were taken by the Templeton Crocker Expedition. The types, however, are selected from a series taken by Mr. H. H. Keifer on the Academy expedition to the Revillagigedo Islands in 1925, as some of these are in more perfect condition. Mr. Heid's description follows.

Thecla melinus clarionensis Heid. Subsp. new

Resembles *melinus* Hbn. except in following particulars:

Ground color of both wings dorsally black-brown; ground color of both wings ventrally light cinnamon-brown.

Secondaries dorsally with a large, orange-red submarginal spot in area 2, this spot being carried over into area 3 as a red suffusion, often forming a distinct spot.

Secondaries ventrally with a row of spots in the discal area forming a transverse line, as in typical *melinus* Hbn. However, with the row of red spots along the basal edge of this line, always broad and distinct. The spot in area 6 never nearer to the base than the others, so the line is nearly straight from vein 4 to vein 8. Submarginal red spots in areas 1a, 1b, 2 and 3; those in 2 and 3 large and confluent. The spot in area 2 extends basally to meet the transverse line, which it partially obscures.

The general appearance of the insect is more brownish than in typical *melinus*, with the red marking greatly exaggerated and tending toward confluence.

Holotype, male (No. 3749, Mus. Calif. Acad. Sci.) Clarion Island, Mexico, April 30, 1925, collector, H. H. Keifer. Allotype, female (No. 3750, Mus. Calif. Acad. Sci.) Clarion Island, April 29, 1925, H. H. Keifer, collector. Paratype 1 ♂ (author's collection) Clarion Island, April 30, 1925. Paratype 2 ♀ (author's collection) Clarion Island, April 29, 1925, H. H. Keifer, collector. Paratypes 3-9, all males, April 29 to May 1st, 1925, collector, H. H. Keifer. Paratypes 10-11, females, Clarion Island, April 29-30, H. H. Keifer, collector. Paratype 12, female, Clarion Island, March 24, 1932, Templeton Crocker Expedition, M. Willows, Jr., collector. The characters mentioned in the description above are constant throughout the entire series.

HESPERIDÆ

37. *Eudamus galapagensis* Williams

Post Office Bay, Charles Island, April 24; Black Beach Road, Charles Island, April 25; Chatham Island, April 15-18; Tower Island, June 15; Tagus Cove, Albemarle Island, May 21; Summit Mt. Crocker, 2000 ft., Indefatigable Island, May 10, nineteen specimens in all.

In his description of this insect (Proc. Calif. Acad. Sci., Ser. 4, I, p. 303, 1911) Williams reports this as common, especially on Chatham and Albemarle islands.

38. *Heteropia* sp. near *imalena* Butler

Albemarle Island, April 28, 1 pair. This species has the blue blush on the base of the forewings found in *imalena* but the white markings consist of but two quadrate white spots representing the transverse band, one other distad of the second, and three minute white points near the apex. The female is labeled Puerto Vallarta, Jalisco, Mexico, July 21. One of these labels undoubtedly is wrong, but there is no way now of deciding which until more material has been secured.

39. **Thanaos persius** Scudder

Chatham Island, April 15, one rubbed example. It is possible that this label is also in error. The determination of this and the following two species is subject to some uncertainty until fuller series have been secured.

40. **Thanaos** sp. near **funeralis**

Clarion Island, March 22, three examples.

41. **Camptopleura theramenes** Mabe

Coseguina Slope, Nicaragua, July 6, one example.

42. **Pellicia licisca** Platz.

Coseguina Slope, Nicaragua, July 6; Puerto Vallarta, Jalisco Mexico, July 21.

